

Notice of Allowability

Application No.

10/024,379

Examiner

Marc A Patterson

Applicant(s)

RIES ET AL.

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/21/04.
2. ☒ The allowed claim(s) is/are 1-37.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 14.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Kirsten Gruneberg on February 5, 2004.

The application has been amended as follows:

Cancel Claim 1, which currently reads as follows:

--A composite having two or more layers and comprising:

a layer I obtained from a molding composition comprising:

a) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 6, polyamide 66, polyamide 6/66 and a mixture thereof;

b) from 0.05 to 100 parts by weight of a polyamine – polyamide copolymer prepared from the following monomers:

α) from 0.5 to 25% by weight, based on the polyamine – polyamide copolymer, of a polyamine having at least 4 nitrogen atoms and having a number – average molecular weight M_n of at least 146 g/mol, and

β) a polyamide – forming monomer selected from the group consisting of a lactam, a ω – aminocarboxylic acid, an equimolar combination of a diamine and a dicarboxylic acid and a mixture thereof; and

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c) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 11, polyamide 12, polyamide 612, polyamide 1012, polyamide 1212 and a mixture thereof;

wherein a total of the parts by weight of components a), b) and c) is 100;

wherein a total amount of said polyamide a) and said polyamine – polyamide b) contains at least 20 parts by weight of a monomer unit which is obtained

i) by ring – opening polymerization of caprolactam, or

ii) by polycondensing hexamethylenediamine and adipic acid or

iii) by copolycondensing caprolactam, hexamethylenediamine and adipic acid; and

wherein a total of said polyamine – polyamide b) and said polyamide c) contains at least 20 parts by weight of a monomer unit which is obtained by polycondensing of ω – aminoundecanoic acid, or ring – opening and polycondensing of lauro lactam or polycondensing of at least one of the following mixtures: a mixture of hexamethylenediamine and 1, 12 – dodecanedioic acid, a mixture of 1, 10 decanediamine and 1, 12 dodecanedioic acid, a mixture of 1, 12 dodecanediamine and 1, 12 dodecanedioic acid.—

and substitute Claim 1 as follows:

--A composite having two or more layers and comprising:

a layer I obtained from a molding composition comprising:

a) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 6, polyamide 66, polyamide 6/66 and a mixture thereof;

b) from 0.05 to 100 parts by weight of a polyamine – polyamide copolymer prepared from the following monomers:

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α) from 0.5 to 25% by weight, based on the polyamine – polyamide copolymer, of a polyamine having at least 4 nitrogen atoms and having a number – average molecular weight M_n of at least 146 g/mol, and

β) a polyamide – forming monomer selected from the group consisting of a lactam, a ω – aminocarboxylic acid, an equimolar combination of a diamine and a dicarboxylic acid and a mixture thereof; and

c) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 11, polyamide 12, polyamide 612, polyamide 1012, polyamide 1212 and a mixture thereof;

wherein a total of the parts by weight of components a), b) and c) is 100;

wherein a total amount of said polyamide a) and said polyamine – polyamide b) contains at least 20 parts by weight of a monomer unit which is obtained

i) by ring – opening polymerization of caprolactam, or

ii) by polycondensing hexamethylenediamine and adipic acid or

iii) by copolycondensing caprolactam, hexamethylenediamine and adipic acid; and

wherein a total of said polyamine – polyamide b) and said polyamide c) contains at least 20 parts by weight of a monomer unit which is obtained by polycondensing of ω – aminoundecanoic acid, or ring – opening and polycondensing of laurolactam or polycondensing of at least one of the following mixtures: a mixture of hexamethylenediamine and 1, 12 – dodecanedioic acid, a mixture of 1, 10 decanediamine and 1, 12 dodecanedioic acid, a mixture of 1, 12 dodecanediamine and 1, 12 dodecanedioic acid.—

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Cancel Claim 32, which currently reads as follows:

--A composite having two or more layers and comprising:

a layer I obtained from a molding composition comprising:

a) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 6, polyamide 66, polyamide 6/66 and a mixture thereof;

b) from 0.05 to 100 parts by weight of a polyamine – polyamide copolymer prepared from the following monomers:

α) from 0.5 to 25% by weight, based on the polyamine – polyamide copolymer, of a polyamine having at least 4 nitrogen atoms and having a number – average molecular weight M_n of at least 146 g/mol, and

β) a polyamide – forming monomer selected from the group consisting of a lactam, a ω – aminocarboxylic acid, an equimolar combination of a diamine and a dicarboxylic acid and a mixture thereof; and

c) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 11, polyamide 12, polyamide 612, polyamide 1012, polyamide 1212 and a mixture thereof;

wherein a total of the parts by weight of components a), b) and c) is 100;

wherein a total amount of said polyamide a) and said polyamine – polyamide b) contains at least 20 parts by weight of a monomer unit which is obtained

i) by ring – opening polymerization of caprolactam, or

ii) by polycondensing hexamethylenediamine and adipic acid or

iii) by copolycondensing caprolactam, hexamethylenediamine and adipic acid; and

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wherein a total of said polyamine – polyamide b) and said polyamide c) contains at least 20 parts by weight of a monomer unit which is obtained by polycondensing of ω – aminoundecanoic acid, or ring – opening and polycondensing of laurolactam or polycondensing of at least one of the following mixtures: a mixture of hexamethylenediamine and 1, 12 – dodecanedioic acid, a mixture of 1, 10 decanediamine and 1, 12 dodecanedioic acid, a mixture of 1, 12 dodecanediamine and 1, 12 dodecanedioic acid;

wherein the molding composition of layer I is obtained by subjecting a blend comprising polyamide a) and said polyamide c) to solid – phase post – condensation;

wherein at least one of a) or c) is present.—

and substitute Claim 32 as follows:

--A composite having two or more layers and comprising:

a layer I obtained from a molding composition comprising:

a) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 6, polyamide 66, polyamide 6/66 and a mixture thereof;

b) from 0.05 to 100 parts by weight of a polyamine – polyamide copolymer prepared from the following monomers:

α) from 0.5 to 25% by weight, based on the polyamine – polyamide copolymer, of a polyamine having at least 4 nitrogen atoms and having a number – average molecular weight M_n of at least 146 g/mol, and

β) a polyamide – forming monomer selected from the group consisting of a lactam, a ω – aminocarboxylic acid, an equimolar combination of a diamine and a dicarboxylic acid and a mixture thereof; and

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c) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 11, polyamide 12, polyamide 612, polyamide 1012, polyamide 1212 and a mixture thereof;

wherein a total of the parts by weight of components a), b) and c) is 100;

wherein a total amount of said polyamide a) and said polyamine – polyamide b) contains at least 20 parts by weight of a monomer unit which is obtained

i) by ring – opening polymerization of caprolactam, or

ii) by polycondensing hexamethylenediamine and adipic acid or

iii) by copolycondensing caprolactam, hexamethylenediamine and adipic acid; and

wherein a total of said polyamine – polyamide b) and said polyamide c) contains at least 20 parts by weight of a monomer unit which is obtained by polycondensing of ω – aminoundecanoic acid, or ring – opening and polycondensing of laurolactam or polycondensing of at least one of the following mixtures: a mixture of hexamethylenediamine and 1, 12 – dodecanedioic acid, a mixture of 1, 10 decanediamine and 1, 12 dodecanedioic acid, a mixture of 1, 12 dodecanediamine and 1, 12 dodecanedioic acid;

wherein the molding composition of layer I is obtained by subjecting a blend comprising polyamide a) and said polyamide c) to solid – phase post – condensation;

wherein at least one of a) or c) is present.—

Cancel Claim 34, which currently reads as follows:

--A composite having two or more layers and comprising:

a layer I obtained from a molding composition comprising:

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a) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 6, polyamide 66, polyamide 6/66 and a mixture thereof;

b) from 0.05 to 100 parts by weight of a polyamine – polyamide copolymer prepared from the following monomers:

α) from 0.5 to 25% by weight, based on the polyamine – polyamide copolymer, of a polyamine having at least 4 nitrogen atoms and having a number – average molecular weight M_n of at least 146 g/mol, and

β) a polyamide – forming monomer selected from the group consisting of a lactam, a ω – aminocarboxylic acid, an equimolar combination of a diamine and a dicarboxylic acid and a mixture thereof; and

c) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 11, polyamide 12, polyamide 612, polyamide 1012, polyamide 1212 and a mixture thereof;

wherein a total of the parts by weight of components a), b) and c) is 100;

wherein a total amount of said polyamide a) and said polyamine – polyamide b) contains at least 20 parts by weight of a monomer unit which is obtained

i) by ring – opening polymerization of caprolactam, or

ii) by polycondensing hexamethylenediamine and adipic acid or

iii) by copolycondensing caprolactam, hexamethylenediamine and adipic acid; and

wherein a total of said polyamine – polyamide b) and said polyamide c) contains at least 20 parts by weight of a monomer unit which is obtained by polycondensing of ω – aminoundecanoic acid, or ring – opening and polycondensing of laurolactam or polycondensing

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of at least one of the following mixtures: a mixture of hexamethylenediamine and 1, 12 - dodecanedioic acid, a mixture of 1, 10 decanediamine and 1, 12 dodecanedioic acid, a mixture of 1, 12 dodecanediamine and 1, 12 dodecanedioic acid;

wherein either polyamide a) or c) contains an excess of amino end groups and the other polyamide contains an excess of carboxyl end groups;

wherein at least one of a) or c) is present.—

and substitute Claim 34 as follows:

--A composite having two or more layers and comprising:

a layer I obtained from a molding composition comprising:

a) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 6, polyamide 66, polyamide 6/66 and a mixture thereof;

b) from 0.05 to 100 parts by weight of a polyamine - polyamide copolymer prepared from the following monomers:

α) from 0.5 to 25% by weight, based on the polyamine - polyamide copolymer, of a polyamine having at least 4 nitrogen atoms and having a number - average molecular weight M_n of at least 146 g/mol, and

β) a polyamide - forming monomer selected from the group consisting of a lactam, a ω - aminocarboxylic acid, an equimolar combination of a diamine and a dicarboxylic acid and a mixture thereof; and

c) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 11, polyamide 12, polyamide 612, polyamide 1012, polyamide 1212 and a mixture thereof;

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wherein a total of the parts by weight of components a), b) and c) is 100;

wherein a total amount of said polyamide a) and said polyamine – polyamide b) contains at least 20 parts by weight of a monomer unit which is obtained

i) by ring – opening polymerization of caprolactam, or

ii) by polycondensing hexamethylenediamine and adipic acid or

iii) by copolycondensing caprolactam, hexamethylenediamine and adipic acid; and

wherein a total of said polyamine – polyamide b) and said polyamide c) contains at least 20 parts by weight of a monomer unit which is obtained by polycondensing of ω – aminoundecanoic acid, or ring – opening and polycondensing of laurolactam or polycondensing of at least one of the following mixtures: a mixture of hexamethylenediamine and 1, 12 – dodecanedioic acid, a mixture of 1, 10 decanediamine and 1, 12 dodecanedioic acid, a mixture of 1, 12 dodecanediamine and 1, 12 dodecanedioic acid;

wherein either polyamide a) or c) contains an excess of amino end groups and the other polyamide contains an excess of carboxyl end groups;

wherein at least one of a) or c) is present.—

Cancel Claim 35, which currently reads as follows:

--A composite having two or more layers and comprising:

a layer I obtained from a molding composition comprising:

a) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 6, polyamide 66, polyamide 6/66 and a mixture thereof;

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b) from 0.05 to 100 parts by weight of a polyamine – polyamide copolymer prepared from the following monomers:

α) from 0.5 to 25% by weight, based on the polyamine – polyamide copolymer, of a polyamine having at least 4 nitrogen atoms and having a number – average molecular weight M_n of at least 146 g/mol, and

β) a polyamide – forming monomer selected from the group consisting of a lactam, a ω – aminocarboxylic acid, an equimolar combination of a diamine and a dicarboxylic acid and a mixture thereof; and

c) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 11, polyamide 12, polyamide 612, polyamide 1012, polyamide 1212 and a mixture thereof;

wherein a total of the parts by weight of components a), b) and c) is 100;

wherein a total amount of said polyamide a) and said polyamine – polyamide b) contains at least 20 parts by weight of a monomer unit which is obtained

i) by ring – opening polymerization of caprolactam, or

ii) by polycondensing hexamethylenediamine and adipic acid or

iii) by copolycondensing caprolactam, hexamethylenediamine and adipic acid; and

wherein a total of said polyamine – polyamide b) and said polyamide c) contains at least 20 parts by weight of a monomer unit which is obtained by polycondensing of ω – aminoundecanoic acid, or ring – opening and polycondensing of laurolactam or polycondensing of at least one of the following mixtures: a mixture of hexamethylenediamine and 1, 12 –

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dodecanedioic acid, a mixture of 1, 10 decanediamine and 1, 12 dodecanedioic acid, a mixture of 1, 12 dodecanediamine and 1, 12 dodecanedioic acid;

wherein components a) and c) are linked by adding a reactive compound which links the polyamide end groups to one another;

wherein a) and c) are present.—

and substitute Claim 35 as follows:

--A composite having two or more layers and comprising:

a layer I obtained from a molding composition comprising:

a) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 6, polyamide 66, polyamide 6/66 and a mixture thereof;

b) from 0.05 to 100 parts by weight of a polyamine – polyamide copolymer prepared from the following monomers:

α) from 0.5 to 25% by weight, based on the polyamine – polyamide copolymer, of a polyamine having at least 4 nitrogen atoms and having a number – average molecular weight M_n of at least 146 g/mol, and

β) a polyamide – forming monomer selected from the group consisting of a lactam, a ω – aminocarboxylic acid, an equimolar combination of a diamine and a dicarboxylic acid and a mixture thereof; and

c) from 0 to 80 parts by weight of a polyamide selected from the group consisting of polyamide 11, polyamide 12, polyamide 612, polyamide 1012, polyamide 1212 and a mixture thereof;

wherein a total of the parts by weight of components a), b) and c) is 100;

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wherein a total amount of said polyamide a) and said polyamine – polyamide b) contains at least 20 parts by weight of a monomer unit which is obtained

- i) by ring – opening polymerization of caprolactam, or
- ii) by polycondensing hexamethylenediamine and adipic acid or
- iii) by copolycondensing caprolactam, hexamethylenediamine and adipic acid; and

wherein a total of said polyamine – polyamide b) and said polyamide c) contains at least 20 parts by weight of a monomer unit which is obtained by polycondensing of ω – aminoundecanoic acid, or ring – opening and polycondensing of lauro lactam or polycondensing of at least one of the following mixtures: a mixture of hexamethylenediamine and 1, 12 – dodecanedioic acid, a mixture of 1, 10 decanediamine and 1, 12 dodecanedioic acid, a mixture of 1, 12 dodecanediamine and 1, 12 dodecanedioic acid;

wherein components a) and c) are linked by adding a reactive compound which links the polyamide end groups to one another;

wherein a) and c) are present.—

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance: The terminal disclaimer filed by Applicant on January 21, 2004 overcomes the rejection of Claims 1 – 5, 9 – 12, 20 and 23 – 36 under obviousness-type double patenting as being unpatentable over claims 1, 8, 15, 18, 21, 23 and 28 of U.S. Patent No. 6,355,358 B1, the rejection of Claims 6 – 8, 13 – 18 and 21 obviousness-type double patenting as being unpatentable over claims 2 and 11 of U.S. Patent No. 6,355,358 B1 in view of Mugge et al (U.S. Patent No. 5,404,915) and the rejection of


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Claim 19 under obviousness-type double patenting as being unpatentable over claim 22 of U.S. Patent No. 6,355,358 B1 in view of Hata et al (European Patent No. 0742096). With the exception of U.S. Patent No. 6,355,358 B1, the prior art fails to disclose a composite having two or more layers and comprising a layer obtained from a molding composition comprising from 0.5 to 25% by weight, based on the polyamine – polyamide copolymer, of a polyamine having at least 4 nitrogen atoms and having a number – average molecular weight M_n of at least 146 g/mol, and a polyamide – forming monomer selected from the group consisting of a lactam, a ω – aminocarboxylic acid, an equimolar combination of a diamine and a dicarboxylic acid and a mixture thereof.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Patterson, whose telephone number is (571) 272 – 1497. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (571) 272 – 1498. FAX communications should be sent to (703) 872-9310. FAXs received after 4 P.M. will not be processed until the following business day.

Marc A. Patterson, PhD.

Marc Patterson
Art Unit 1772
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

2/21/04